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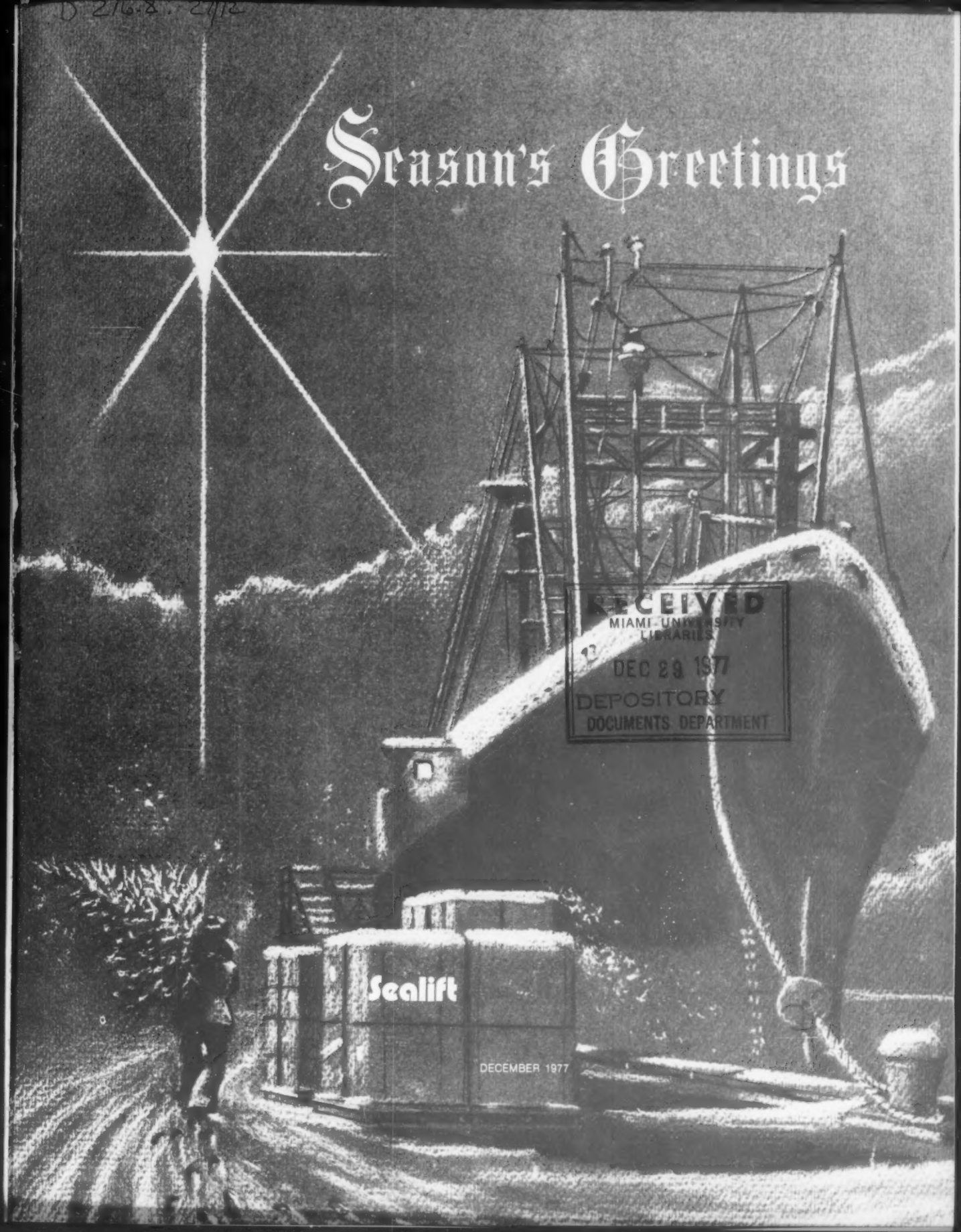
Season's Greetings



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We join in wishing each member of the

Military Sealift Command family

A JOYOUS

and

HAPPY HOLIDAY SEASON

And hope that the

NEW YEAR

brings you great happiness,

fair winds and following seas.

Commander, Military Sealift Command

Commander, Pacific

Commander, Atlantic

Commander,
Eastern Atlantic and Mediterranean

Commander, Far East

COVER: YNCS Earl Payne has expressed in art what MSC commanders say to all employees: Best wishes for the happiest of holidays.

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Commander, Military Sealift Command

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Sealift

MAGAZINE OF THE MILITARY SEALIFT COMMAND

Vol. XXVII No. 12 Washington, D.C. December 1977

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MSC, Port Canaveral

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Equine Cargo

MSC lifts 16 horses from Adak to safer quarters.

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First Colonial Shipyard

Colonial shipbuilders helped launch vessels and a nation.

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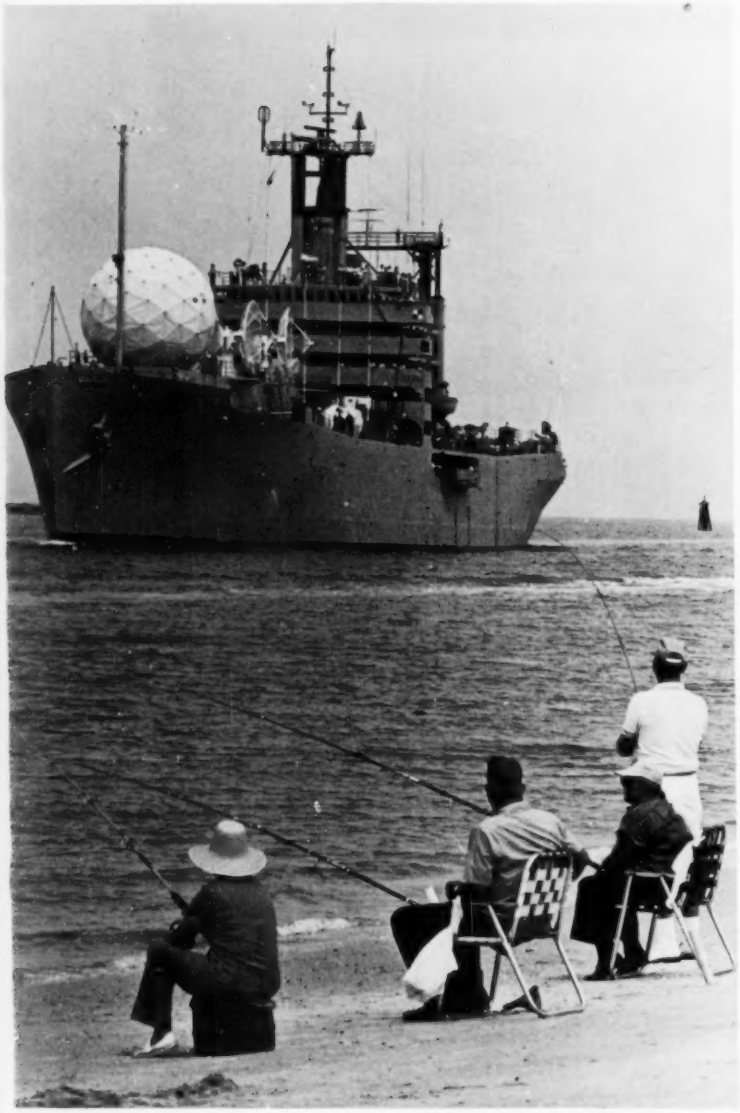
Port Canaveral Office MSC Link to Space



USNS Range Sentinel sails past Florida fishermen as it heads for Port Canaveral.

By Louis R. Granger

The United States' space program was literally launched in 1950 when a German V-2 rocket was fired from Cape Canaveral, Florida. That historic event also launched the creation, two years later, of the Military Sealift Command Office, Port Canaveral.

The office originally was set up to administer and provide logistical support of downrange bases of the Air Force Missile Test Center at Patrick Air Force Base.

Now operating from Patrick AFB and Port Canaveral with a staff of nine persons headed by Cmdr. Charles M. Rowland, Jr., the MSC office continues to be responsible for operational control of tracking ships and in addition provides logistical support for those ships and for naval facilities and tracking stations in the Bahamas, Caribbean and Ascension Island.

Since February the office also has taken care of all MSC controlled shipping from ports along Florida's East Coast and Tampa, and in October began supporting the increased activity of MSC fleet support oilers operating out of Florida ports.

Because of the extra fleet support responsibilities a billet for an executive officer will be filled soon. He also will be officer in charge and MSC representative at Mayport. An additional storekeeper came aboard last month.

The office has two major functions—supply and operations. Supply and fiscal officer is Jack H. Payne. Assisting him are Pat Herrick, administrative purchasing clerk; Storekeeper Second Class Barry G. Dehay, and Storekeeper Third Class William Small.

Operations officer is William Jennings. His staff includes Linda Young, cargo clerk, and Chief Quartermaster Thomas D. Arnold who recently replaced Quartermaster First Class Tommy H. Perry who retired.

The ninth member of the office team is Yeoman First Class William L. Freemire, administrative assistant to Commander Rowland.

For the first 12 years the office was primarily a cargo office supplying tracking bases along a 2,000-mile route known as the "range." Bases include Grand Bahama, Eleuthera, San Salvador and Mayaguana in the Bahamas; Grand Turk; Saban de la Mar in the Dominican Republic, and Mayaguez, Puerto Rico.

Amphibious or beach landing ships were normally used and when lift requirements were excessive LSTs did

the job. These ships carried supplies for approximately 550 Americans and 350 local employees who manned the Air Force auxiliary bases.

In 1964 the Air Force began to operate tracking stations on ships operated by Pan American under subcontract with steamship companies.

Shortly thereafter MSC took over the administration of the contracts and then began manning the ships with Civil Service mariners while the Air Force provided technical personnel.

These ships supported the test range and several space flight programs. Requirements for tracking ships have gradually decreased and this year USNS Vanguard was put on reduced operational status on the West Coast. This leaves the Vandenberg and Redstone, both Air Force-sponsored, and the Navy-sponsored Range Sentinel. Vanguard fulfilled requirements established by the National Aeronautics and Space Administration.

Three medium landing ships are chartered from Canaveral International Corp., of Miami to deliver cargo to the Bahamas and Caribbean. These vessels move about 52,000 measurement tons of refrigerated, general cargo and fuel each year to Grand Bahama, Andros Island, Eleuthera, Grand Turk, Barbados, Antigua and Roosevelt Roads in Puerto Rico.

Occasionally something more unusual is lifted to the islands, such as sand. That is rather like carrying coal to Newcastle. Since May 5,500 tons of sand and gravel have been delivered to Andros Island for a U.S. government construction project. Andros Island sand is very fine, the kind you see in travel brochures. The more coarse Florida sand is better for mixing concrete.

Ascension Island, midway between Brazil and Angola, is supplied by commercial ships operated by Moore McCormick and Farrell Lines under agreements with MSC.

Commander Rowland noted that 60 per cent of the cargo controlled by the Canaveral office is moved for Defense agencies not involved in missile or space programs. These include the Atlantic Underseas Test and Evaluation Center on Andros, and naval facilities in the Bahamas, Antigua and Barbados.

Over the next few years 60 per cent of the Canaveral office workload will be for the missile program and 40 per cent for support of other MSC tasks, he added.

The economic impact the MSC office has in Florida is substantial. Some $12 million a year is generated by salaries, including those of Civil Service mariners aboard the tracking ships, and by expenditures for fuel, fresh provisions, dockage fees, power, repairs and stevedoring. Another $1.2 million is paid to the New York based Farrell and Moore McCormick Lines.

There is no such thing as a routine day for Commander Rowland. When the tracking ships are in port, he and someone from supply or operations meet the ships and go over support plans and problems that must be corrected.

He briefs masters on upcoming voyages and discusses

Cmdr. Charles Rowland came into the Navy through the NROTC program. His son Steve is following in his footsteps and will become an ensign next summer.

Barry Dehay (right) checks supplies to be airlifted to downrange ships.

everything from fuel to mess supplies.

"I frequently meet with the sponsors and members of the agencies our ships support, to discuss ship operational changes and status of launches from the Eastern Test Range. I also meet weekly with offficials at the Army outport at Port Canaveral—there really is no particular routine.

"This is a very challenging job in that we deal with so many outside agencies. Anything we do with the tracking ships involves many contractors and services. I sometimes have to talk with 20 to 30 people before we're through with a project," he said.

"A major problem is the nature of missile tests. There are many delays that drastically and unexpectedly change our operations. That makes it difficult to support the ships and plan repair periods. A related problem is that when tests do slip it occasionally requires scheduling logistical support of ships in foreign ports with less than the 30 days notice required to obtain diplomatic clearances."

Commander Rowland has spent 12 years and seven months of his 23-year naval career with Military Sealift Command—the longest period any naval officer has ever served with the command.

Before taking command of the Port Canaveral office in 1975, he was chief staff officer at the MSC, Gulf sub area command at New Orleans. He also has commanded the MSC office in the Canal Zone, was in operations at the MSC office in Saigon and at the Atlantic area command.

Commander Rowland came into the Navy through the NROTC program at the University of Rochester. His son, Steve, is following closely in his father's footsteps, so close in fact that he also is in the NROTC at Rochester, is a member of the same fraternity (Sigma Chi) and slept in the same bed at school his father did when a junior. Commander Rowland and his wife Marty have two other children, Karin, 10 and Kathie who lives in north Florida.

On any given day Jack Payne's supply office often looks like a telephone exchange. Supply office work has been so refined that much of the business can be accomplished by telephone.

An average of more than 100 calls a day are made on two lines. During the week of June 6-10, the three-person office made 1,146 calls for a total of 33½ hours, the maximum during a three-week period when the telephone company monitored supply office calls at the request of Payne.

The lowest number of calls was 485 for the week of January 10 and the least amount of time was 16 hours and 40 minutes for the week of Nov. 29, 1976.

What are all the calls about? Everything from getting local bids from produce merchants, ordering ship repair parts, and follow-up calls to keep the supplies flowing and on time.

Since the office is responsible for providing fresh and frozen stores to the downrange ships that might only be in a Caribbean port for a short time, coordination and follow through are prime factors. Payne and his team have it down to almost a science.

Ship provisions and emergency parts are driven aboard a Military Airlift Command jet for delivery to Antigua and Ascension Island.

Food supplies and emergency parts are transported to the Caribbean and Ascension Island by Military Airlift Command aircraft flying from Patrick. Supplies are ordered as early as possible and the day before a flight everything is packaged.

Packing day begins about 7:30 a.m. when dry ice is delivered to the Patrick packing and crating shop. Between 7:30 and 8:00 a.m. a refrigerated van delivers supplies and a veterinarian (who inspects the meat) arrives along with an MSC representative who checks to see that everything ordered has arrived.

By this time Air Force packers have set up boxes and lined them with plastic. At 8 a.m. frozen milk and ice cream come in for priority packing with dry ice. Bread is delivered anytime in the morning.

At 9 a.m. the rest of the frozen stores are put into the boxes. As the boxes are packed they are moved into precooled refrigerators on a warehouse dock. The reefers are then moved to the terminals and plugged into hangar power for the night.

At 10 a.m. produce is packed and put into the terminal chill box and nonperishables are stored in the hangar. The supply plane arrives from Charleston Air Force Base at 11 a.m. the next day, is loaded, and leaves between 1 and 2 p.m.

Meanwhile, arrangements to receive the supplies have been made with the commanders at Ascension Island and Antigua, where the ships put in for supplies. If the aircraft is late, and the ship must leave, refrigerated

boxes on the islands can hold the supplies up to 30 days.

Another job that requires tight scheduling and consequently saves time and money is the system of supplying food to MSC ships homeported at Port Canaveral.

Food other than fresh vegetables and fruit is provided by the Navy in Jacksonville and shipped to Port Canaveral by commercial carrier. The downrange ships require shoreside assistance to load supplies so Payne requests a crane and crew from the Air Force.

After ordering the food from Jacksonville he finds out what trucking company is to deliver it, calls there and reminds the scheduler that "we have a crane costing us a lot of money and we don't want delays." The morning the food is to arrive at the pier Payne makes sure the crane and crew are there.

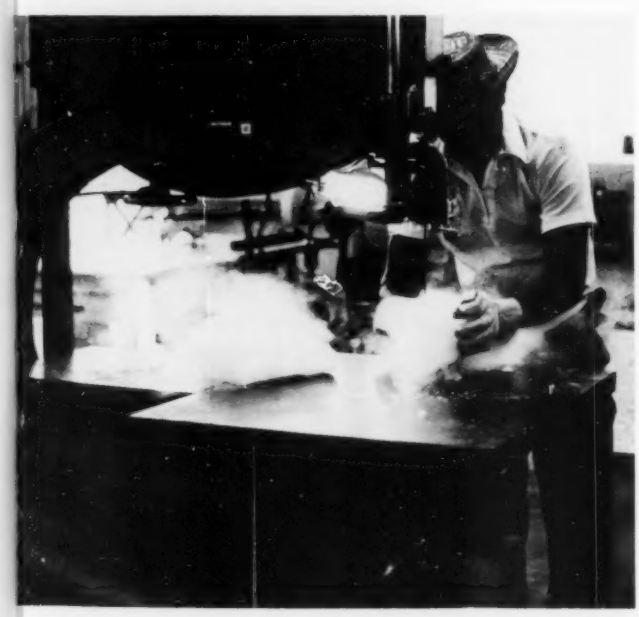
"By very tight scheduling and follow-up calls to make certain that everything is on schedule, we can eliminate warehousing and warehousemen, and provide single handling rather than double handling," said Payne.

A former Air Force lieutenant colonel and command pilot, Payne was a fighter pilot in World War II and flew B-29s during the war in Korea. He has been with MSC for 10 years.

Payne admits that the job can get frustrating especially when they are shorthanded, but "if I didn't like it I would have been gone long ago."

The oilers operating out of Mayport require nearly the fulltime services of Dehay who has been with MSC about a year, and 15 years with the Navy.

His original job with the office was as ship supply liaison and transportation officer. He kept personal contact with ship officers, kept budget reports, made contacts with vendors and veterinarians who inspect produce and meats taken outside the United States and saw that cargo got to the planes and ships on time. Much of the work is now being done by Small.



Dry ice is cut to proper size to keep frozen supplies fresh during air delivery.

"This is choice duty," said Dehay. "I'm on my own in making many decisions and I have a lot of freedom, responsibility and challenges. It's a lot of fun."

Pat Herrick has been administrative purchasing clerk since April and also is an official MSC and Navy hostess when visitors aboard the Range Sentinel view Poseidon missile launches.

She is in charge of all requisitions and requests and computes bids for items bought locally. In addition to doing most of the typing and filing, Herrick keeps employee time sheets and makes weekly, monthly, quarterly and annual reports on the budget, manpower, telephone usage, travel reports, vehicle utilization and budget forecasts.

She also feels her job is "challenging and rewarding. There's something new every day and it's never repetitious."

On the operations side of the office Jennings spends half his time at the Patrick office and half at the port. At Patrick he deals with sail orders, fueling, berthing, ordering tugs and line handlers for tracking ships, and at the port he handles downrange cargo operations, loading, discharging and ship scheduling, and monitors the landing ship contract.

Jennings also participates in annual landing ship drydocking and damage surveys "to keep the government from paying for something we're not responsible for," he said.

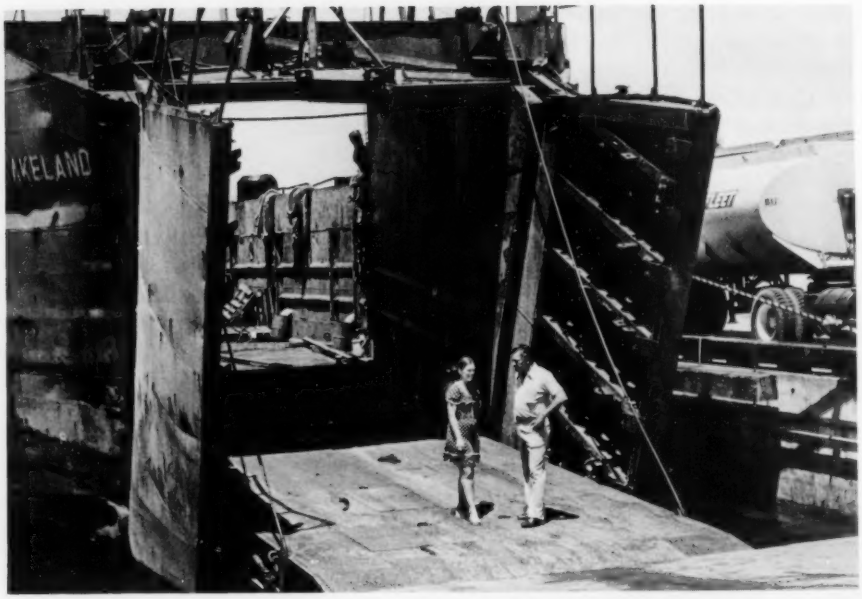
"We dispute a lot of damage claims," he explained. "Sometimes we get conflicting reports. When something is damaged the ship master might say one thing but naval station officials where the ship is will say something else. So I have to go there and find out for myself."

In the course of his work Jennings deals directly with representatives of the Air Force, Navy, NASA, Canaveral port authority, Army, Coast Guard and Air Force contractors such as Pan American and RCA. Pan American is the prime contractor for work involving the tracking stations and RCA is the prime contractor for the Atlantic Undersea Test and Evaluation Center stations in the Caribbean.

Jennings' MSC career began in 1964 as a Navy lieutenant in cargo operations. He retired in early 1967 and worked for Bendix Corp. in the missile launch support division. He returned to MSC operations in November that year and three years ago his job was expanded to include all operations for the office.

Most of his naval career was spent in submarines. Jennings joined the Navy out of high school in 1943 and was commissioned in 1950. His son, Thomas, is a Naval Academy graduate and is a lieutenant (j.g.) pilot aboard the carrier USS Saratoga.

"This is an outstanding job," Jennings said. "The



The big bow doors of the Lakeland dwarf Linda Young and William Jennings.

day-to-day functions are never boring because there is always something new—some problems we have to solve."

One of Jennings two assistants is Linda Young who is mother hen to the landing ships when in port.

"There is really a lot to do when I have a ship in. I go directly to the ship and find out how much fuel is needed. I make sure cargo and fuel get aboard and that everything goes smoothly.

"I order fuel, schedule loading dates and time and coordinate with the Army's commercial stevedores. When we say we are going to load, we have to do so at the exact time because the stevedores will be paid anyway. It costs money to hold people up," she explained.

Among Young's jobs is making reports to the Atlantic area command on such information as daily ship positions, loading and discharging schedules, and manifests.

Both Jennings and Young must be familiar with the Coast Guard regulations on stowage of inflammables and explosives.

"We have to know Coast Guard regulations for loading dangerous cargo," said Young. "I make out a stowage plan and Coast Guard permit and I have to know what cargo is compatible and how far apart it must be stowed."

Young has been with MSC for nearly a year and proudly admits that "I work hard, have never had a day when I wasn't busy and I have a lot of fun. This is a real good command with a lot of nice people. Everybody cooperates and helps each other."

Chief Tom Arnold replaced Perry who recently retired after 20 years in the Navy. The job involves drafting sailing orders, arranging for pilots, tugs and berths for the tracking and special projects ships and other MSC controlled vessels sailing in and out of Florida ports.

Arnold keeps track of all the ships and in addition to those duties runs the once-a-year Naval Control of Shipping Organization wartime convoy excercise, supervising training of naval reservists for two weeks.

Perry now works at Robins Air Force Base in his home town of Warner Robins, Ga. He left the Navy on the up-beat noting his stint at Canaveral was "the best duty I've had in 20 years. It kept me busy and it was interesting."

When "Willie" Freemire received orders to report to Military Sealift Command he asked, "What is MSC?"

Working in the command has answered that question. "It's a whole new aspect of the Navy that most Navy men don't know about," he said.

As administrative assistant Freemire controls all classified material and correspondence, types directives, maintains military and civilian personnel files and other administrative records.

He is also the Naval Reserve training officer for the office. This duty involves getting quotas, making up training schedules, sending welcome aboard brochures, arranging billeting, special events, tours and handling all the related paperwork.

Married with two young children, Freemire believes that the MSC office is "one of the best duty stations, especially for families." Nearby are Disney World, Sea World and Busch Gardens, and Miami is only 200 miles away by the I-95 freeway.

"This is a unique duty station. We work with the space center and downrange ships, and we get cut in on historic missile programs. It's really interesting, a whole new side of the Navy." ⚓

Photo by PHAN James Riney

Their last day on Adak, Navy horses are headed for the loading dock for shipment to Anchorage.

MSC Helps Find Refuge For 16 Homeless Horses

By Lt. Kathy Gutierrez

What do three helicopters, 16 saddle horses, the naval station at Adak, Alaska and the Military Sealift Command office in Alaska have in common? All were a part of a unique tug and barge lift using transportation equipment operated for MSC by the Alaska Puget United Transportation Companies.

The 16 saddle horses had been stabled at Adak, a remote Aleutian Station, since 1972. They were shipped there from the naval station at Kodiak when that station was turned over to the Coast Guard.

The decision to seek a new home for the horses was made when it became apparent that the harsh weather and limited riding areas at Adak curtailed their use.

The search for a new home for the Adak horses became urgent when their stable was destroyed by high winds and severe weather in late 1976.

Concern for the horses' welfare during the upcoming winter mounted when arrangements for transportation via commercial ocean and airlift carriers serving the station proved either too costly or too late.

Adak special services personnel first contacted MSC's Alaska office at Elmendorf Air Force Base, Anchorage in midsummer with their unique transportation problem. But, the office already had arranged to transfer three HH-46A helicopters from Adak to Seattle on the tug Sea Giant and Barge 560 which were under contract to MSC for the annual Arctic resupply operation known as Cool Barge. That unit was scheduled to deliver Adak cargo.

After study, the MSC office staff decided that if the

Photo by PHAN James Riney

Portable horse stalls, built by Seabees, are loaded with their live cargo at Adak.

horses could be put on the deck of the barge with the helicopters they could make the return trip before cold weather set in.

The problems of loading and housing the horses on the barge were solved by the Seabee detachment on Adak. Seabees built 16 covered wooden stalls for housing the horses on deck during voyage. The stalls were strong enough to allow loading and discharge by crane with the animals inside.

A suitable home for the horses also was quickly found. Approximately 70 miles northwest of Anchorage in the small town of Willow is the Turning Point Boys' Ranch. The ranch is a state operated, non-profit organization located on 40 wooded acres and adjacent to an eight-acre lake.

The boys at the ranch had spent the summer building a two-story barn and corrals to expand the horseback riding and animal care program on which a major portion of the ranch's responsibility training program is based. The ranch staff was delighted to receive the Navy horses.

A Shetland pony, however, went to Elmendorf Air Force Base horse stables.

With the means of transportation and a new home for the horses arranged, Sea Giant and Barge 560 completed their final delivery operations at Shemya and were headed for Adak, arriving there on September 10. With only a one-day delay due to weather the tug and barge departed Adak on the evening of September 13 with their unique cargo on the barge deck. Eight days later, after a brief stop in Dutch Harbor to pick up extra feed and to exercise the horses, the tug and barge arrived in Anchorage.

The horses, in excellent health and spirits, were transferred to the Alaska railroad for the final 70-mile leg of their journey to Willow.

At a brief pierside ceremony in Anchorage following the arrival of the horses on September 21, Cmdr. John A. Stuckemeyer, commanding officer of the MSC office, represented the Navy and transferred custody of the horses to Ken Hahn, executive director of the Turning Point Boys' Ranch.

Those who were involved in the unique lift probably will long remember it, the humans at least. The horses had nothing to say. However, a group of young spokesmen for the 16 steeds had lots of advice for their new owners.

Daughters of military families stationed at Adak volunteered to write letters to the boys at the ranch. Since they had ridden, groomed, fed and looked after many of the horses while they were in the special services corral at Adak, the youngsters felt they had a responsibility to the steeds—and hoped that their favorites would be given the best possible treatment by their new riders. And, in almost every instance the girls wanted to know how their favorite horses were faring in their new environment.

Their letters follow:

GOODEYE

I am writing this to tell you about a horse that I took care of. That horse is Goodeye. I am a high school student and went to the stables regularly for the past year, and he was my favorite horse.

My name is Anita Boedefeld and during the two years I have been on Adak I've worked with the horses, but Goodeye was my favorite. I rode him in the past year more than anyone else did, so I feel I am qualified to tell about him.

He was so used to me riding him that he wasn't that good with other people. Goodeye is blind in his left eye due to cataracts. He doesn't have any bad habits, really, except for two: 1) he doesn't like his legs and belly brushed. He sometimes tries to kick. 2) He loves to run and is sometimes difficult to stop.

Hints: 1) If possible don't use a metal curry comb

anywhere on him except his mane, tail and forelock. Use a rubber one. 2) Pull the reins up towards the head, instead of the stomach. I usually ride Goodeye bareback, although he is very good with a saddle.

Goodeye has a lump on his back that gets sore once in awhile. He rides double as long as there aren't two large people on him. Right now, I've been training his mane to the right, and he does look good with a bridle the size he has now.

He works good with a training snaffle and padded chin strap. He has short gaits but smooth. He doesn't like going through doors, because of his blind side. Please be patient with him, and it won't take long to coax him through. He will hesitate for a moment.

Goodeye needs someone who will love him. I am prejudiced but will miss him so much. Please don't ever hit him. It's not necessary with some patience. Goodeye will shy once in awhile. He's a good jumper. Nothing professional, but just pleasure. Once he gets used to a particular jump, he will take it every time.

I love Goodeye very much and I would appreciate it if someone would keep me in touch with how he is doing. If possible I would like some pictures. We were told that the horses are being sent to a Boys' Town. If this is true surely someone will choose Goodeye as their favorite, and hopefully keep in touch with me about him.

Thank you,
Anita Boedefeld

LUCY

To whoever gets Lucy and her foal, Mai Tai.

Lucy is a very good horse, but needs lots of love. She is afraid of most men and also tall people (5'9"). The reason for this is because a long time ago, when the horses first got to Adak, a man, a tall man, got mad at her and tied her up by her ears.

She is very head shy and must be handled, groomed, and tacked up very slowly and carefully.

Lucy has a hard mouth and so when she is running it is quite hard to stop her. I would guess the easiest way to stop her would be to keep jerking the reins very hard. Constant pressure would just make her mouth harder. When she walks, trots, or canters you should have no problem stopping her.

On Sept. 26, 1977 Lucy broke her splint bone in the right foreleg. If she ever has any problem with that leg please have a veterinarian check her immediately.

Lucy has six gaits: walk, prance, trot, gallop, run, and another we don't know the name of. Her prance is a natural gait. Her colt also prances. We think the gait that we don't know the name of has been taught to her. The great Lippizaners (Austrian show horses) are taught that step.

As far as her right shoulder goes, it is just where the

Photo by S/Sgt. David Rennie

This Shetland will go to Elmendorf Air Force Base.

muscle has been pulled off her bone. It doesn't affect her performance in any way.

MAI TAI

Mai Tai is ticklish on his belly. He also nips and kicks—when he thinks about it. His skin seems to be very sensitive just like his father Shotgun. He likes people and is very curious, and will walk right up to them to take a closer look.

I love both Lucy and Mai Tai much and would appreciate it if someone could write me to keep me informed on both of them.

Marita Sims

TEQUILA

Tequila is a horse that needs lots of love and understanding. At times he can be very stubborn but please be patient and work with him. He is a very affectionate horse, and needs a lot of attention. He has never been known to bite or kick anyone for any reason.

He is a very good horse for children but has a habit of running back home any chance he gets. He works best with a roller bit. He has a hard mouth but can be very easily stopped if you take a rein in each hand, spread out your arms and jerk. Do not supply steady pressure but continually jerk. He rides very well bareback.

If you are leading Tequila and he refuses to move, a slap on the neck will get him going. He is not ticklish in any way. He stands very well while being brushed. He gives his hoof to you for cleaning easily after the first one. He's a little stubborn with the first one.

Tequila doesn't like going out without other horses. He will behave badly if you attempt to take him out alone. I think with extra work though he will learn quickly. He does not like to be at the end of a line of horses. He just recently has picked up the habit of bucking, but don't worry the bucks are just little crow-hops.

Please take good care of Tequila, and I hope you grow to love him as much as I have. All he needs is love and understanding and he will behave.

Thank you,
JoNell Simms

SPOOK

A person should be very gentle with Spook, because he is true to his name. He is a very spooky horse. Any sudden movements or noise will really scare him. He goes crazy when a low flying plane flys by. He is pretty good with traffic, but hates horns.

He'll buck if he is hit too hard on the neck with the reins. He has a small saddle sore on his left side by his white spot. He rides well with a saddle, but also good bare back. Spook gets along well with most of the horses, especially Lucy and Mama. He doesn't get along with Whiskey.

If Spook is underfed he gets very angry and will charge occasionally. His frogs are really in bad shape and should be treated before he is ridden much.

Please take good care of him and give him plenty of love and sweet talk. He really responds to it.

Please write to me and let me know how he is doing.

Theresa Blakeslee

MAMA

This is just a short note about the horse Mama. I spent a great deal of time at the horse stables in Adak, and rode Mama, almost constantly. I love her and will miss her. That is why I would like to tell you a few important things about her.

She works very well with the training snaffle. We've also used the curb bit on her too. She throws her head a lot, mostly if you're riding with a saddle. I usually rode her bareback, but you could use a tie down, riding her with a saddle.

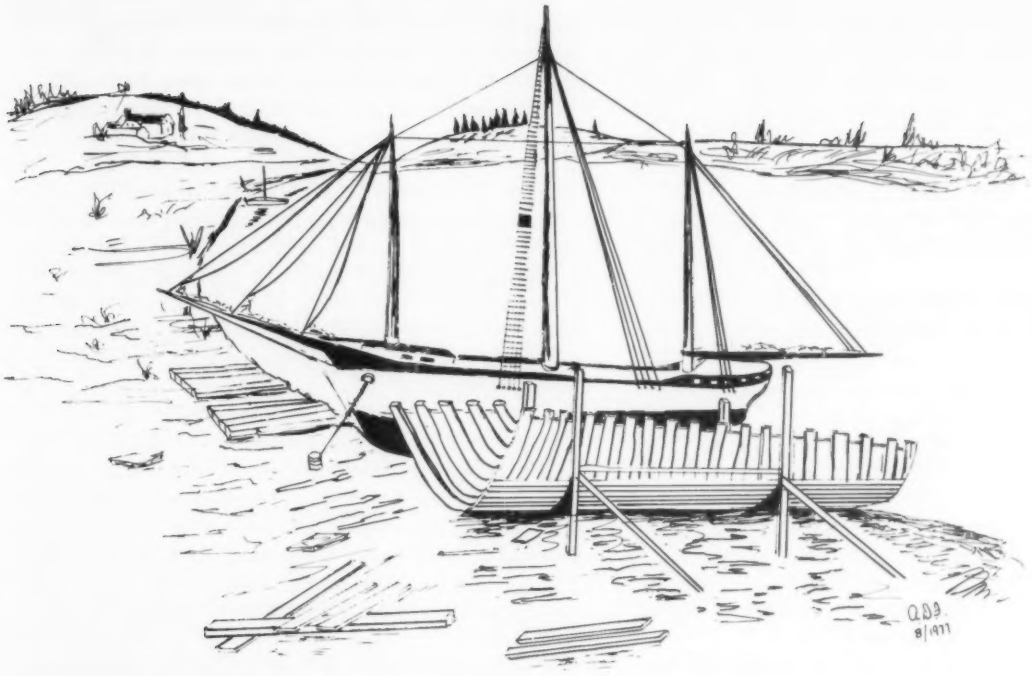
She loves to run especially when there are other horses around. She will pull her head down and it's difficult to stop her. The best way I've found is to turn her in circles. Personally I would recommend an experienced rider for her, of course you will learn most about these horses including Mama as you go along and get to know them as we did.

It would be really great if someone could write to me and let me know how she is getting along. At our stables everyone had their favorite horse and Mama was mine.

Paula Blakeslee

After their ocean cruise the horses are rested and fed before completing their journey.

Photo by S/Sgt. David Rennie



Illustrations by Allen D. Ferreira

America's First Shipyard

By Edwin L. Johnson

The New England settlers of the Massachusetts Bay Colony had to turn to the sea and to shipbuilding for economic survival. Their land was too poor to support any other enterprise.

One historian has noted that the colonists were trapped "between the devil and the deep sea . . . and sagaciously chose the latter."

During the 1620s, the few marketable commodities the New Englanders were able to squeeze from their boulder-strewn land and the nearby sea—fish, corn, grain and salted pork and beef—were carried to England in English ships.

However, the English already had an abundance of New England's exports. To make matters worse, English freight rates were high. Consequently, profits, if any, were meager. This left the colonists with very little money to purchase English goods and New England's economy began to stagnate.

New England, however, like much of North America, was densely covered with an important resource close to the sea and the meandering rivers—trees. Tall and thick, they were ideally suited for shipbuilding. Fine hardwood was everywhere, waiting to be cut.

"Wood was the world's common and only known shipbuilding material. The vast and then apparently inexhaustible forests of hard and soft woods of the new land provided a wealth of it. The colonists could build vessels cheaply and quickly," said the late historian Samuel Eliot Morison.

Although the New England colonists had what appeared to be an inexhaustible supply of timber, it was another matter to develop a shipbuilding industry.

Vessels had already been built in New England. The Virginia, a pinnace of 30 tons, was built during 1607 in Maine. Two shallops of less than 10 tons each were built in the Plymouth Colony during 1624. New Englanders had also constructed many small fishing vessels of less than five tons each.

However, in the year 1627, the entire tonnage of New England was listed as "a bass-boat, shallop and pinnace." The New Englanders needed a leader, a man who could bring together the necessary craftsmen and

materials and develop an industry. They were fortunate enough to find that man in Governor John Winthrop.

In 1629, the year before Winthrop's arrival, "six shipwrights of whom Robert Moulton is chief," were attracted to New England by cash bonuses and large grants of land. Materials for building ships, such as "pitch, tar, rosin, oakum, old ropes for oakum, cordage and sailcloth . . . nine firkins and five barrels of nails," were brought to the colonists. The shipwrights journeyed up the Mystic River and settled around Medford, Mass.

When Governor Winthrop and his party arrived in 1630, many of them, including the governor, also chose to settle in or around Medford. Winthrop, who has been called the "father of American maritime policy," began to implement his shipbuilding ideas.

Under his guidance, the first organized shipyard was established on the north side of the Mystic River near Medford, and the shipwrights began their work. On July 4, 1631 they launched the Blessing of the Bay, a one-masted vessel of 30 tons, similar to the Virginia, which was constructed mainly of locust. Built for Governor Winthrop at a cost of 145 pounds, she was the first of many ships to be built in the yard.

The Blessing of the Bay made trips along the New England coast and to New Amsterdam. She was an excellent showcase for American shipbuilders and stimulated many discussions about the benefits of building ships in the New World.

Used as a floating general store, the Blessing of the Bay helped establish a trading pattern for others to follow. Unlike present day ships, she did not carry a cargo of merchandise from one port to another for a fixed price.

Instead, it was part of her captain's responsibility to visit as many colonies as he could, wherever he thought he could find a bargain, and to sell or trade the wares for whatever was available. Since the wares represented the combined labors of the community, the profits—which were good—were divided on the basis of shares.

Profits were so good, in fact, that shortly after the Blessing of the Bay made her first trading voyages, several more shipyards were opened.

The yards which produced most of America's early ships were located in or near Boston, Marblehead, Medford, Salem, Scituate, Ipswich, Salisbury, Newburyport, Portsmouth and Richmond Island (near Portland).

There was so much shipbuilding activity during the 1630s in New England that one English shipmaster, Captain Thomas Wiggin, remarked in a letter, "The English, numbering about 2,000 and generally most industrious, have done more in three years than others in seven times that space, and at a tenth of the expense."

During this period economic and social conditions complemented one another to create an environment ideal for expansion of shipbuilding in the colonies. Governor Winthrop encouraged the industry and sought to entice as many shipwrights to New England as he could.

Laws were passed that favored the shipwright. They were exempted from military service. A gift was made of shipbuilding and home sites. There were no restrictions on where the shipwright could cut timber. No taxes were assessed on property associated with shipbuilding. Because of these inducements, many master shipwrights left England to start a new life in the New England colonies.

A master shipwright in New England could choose a good shipbuilding site from among many locations along the numerous rivers and in bays and coves.

Land next to the water had not been selected for housing or farming and in many communities it was unclaimed and unwanted. Since only a small capital investment was needed to set up a shipyard, many master shipwrights went into business for themselves and became the owners of their own shipyards.

A master shipwright in England was fully aware of what he had to look forward to in that country. He would work for an owner his entire life and probably try and persuade his sons to pursue another way of life.

In New England he often was the owner and operator. He planned his yard, laid out the site and hired men. Building contracts were obtained, ships built, profits made.

A good shipwright usually became a small-scale businessman—a successful owner-operator, foreman and manager. He was an important member of his community. He depended on his skills and knowledge to bring revenue and prosperity to the settlement.

Because the shipwright-owned yard was small in size and operation during the colonial era, it was not uncommon to find several clustered together in each town that bordered a strip of water. The yards of the 17th century were extremely small. There would be one fitting-out pier, either permanent or temporary. It could be made of stone or timber. Colonial shipwright's did not use many permanent launching ways. Instead, they constructed temporary ones for each vessel.

A general purpose building was used as both a mold loft, where essential parts of the vessel were drawn on the floor and patterns made, and a tool shed. At some

yards the sawpit was covered so that men could work in all types of weather.

Each yard might produce two or three vessels a year. It depended on the size of the yard and the number of contracts the shipwright had acquired. Some yards built only one vessel a year. Others were more ambitious.

A few vessels of more than 200 tons were built. Most were less than 100 tons and included brigs, shallops and pinnaces used for coastal trading and fishing. A 300 ton to 400 ton ship was considered a major accomplishment and some shipwrights would not take on an effort of that magnitude.

Others, however, were challenged by building the larger vessels and sought, whenever possible, to win a contract for a full-rigged ship of 300 tons.

Although the number of workers in a yard varied, depending on the numbers and types of vessels under construction and their various stages of completion, there rarely were more than 40 men working in one yard. During the 1630s and 1640s there were usually less than 20 men in a yard at one time. A brig required from five to 10 men, but only for the initial phases of construction.

Fewer workers were needed for the latter stages of outfitting. The same number of men were used to build a ketch or sloop but when a contract was obtained for a full-rigged ship, 20 or more men would be required to build her.

Some workers were skilled in a particular shipbuilding craft, such as joiners, dubbers, borers, hewers, blockmakers, calkers, fasteners, trunnellers, sawyers, sparmakers and sailmakers. They were employed only for a specific job and collected their wages on a piecework arrangement. In this way a craftsman could work at more than one yard in his area and take full advantage of the shipbuilding boom.

However, there were few craftsmen in the colonial shipyards. A majority of the men in the early shipbuilding labor force were unskilled part-time workers. When not working in a yard, they were farming.

The master shipwright had to either perform all of the necessary crafts himself or to closely supervise and train his part-time workers.

Apprenticeship training was conducted by the master shipwright. The training was flexible, based on the shipwright's needs at the time. A shipwright's guild was organized in 1644. It had "powers to regulate the building of ships, & to make such orders & laws amongst themselves as may conduce to the public good."

The first snowfall was a signal for part-time yard workers to drop their plows and to return to the business of cutting trees, hauling them to the yard and, under the supervision of the master shipwright, shaping the wood into keels, stems, sternposts, keelsons, ribs, beams, stanchions, ceiling and planking.

The shipwright had already determined what his design would be. Sometimes he fashioned a half model. Frequently, he worked simply by "eye" and sketched a pattern of the parts of a ship in his mold loft. Saw gangs were sent into the forest to find trees that closely resembled the patterns.

The trees had to have certain qualities. They had to be light in weight, resistant to dry rotting, able to withstand blows, capable of holding fastenings, easy to fashion and lastly, there had to be an ample supply in suitable sizes and shapes.

A vessel built of seasoned white oak could last at least 15 years. Locust and cedar woods were also abundant. Rock maple, beech and birch sometimes were cut but were not preferred woods.

Launching was often hazardous. In spite of the relatively small weights and dimensions involved, launchings from temporary ways were difficult because of a lack of equipment and narrow working areas.

Vessels sometimes were checked by hawsers that were fastened with small lines—called stops. They were designed to break as the vessel started to leave the ways.

Shipwrights in some situations preferred to slide their vessel, either bow or stern first, into a mudbank. Afterwards, the vessel was outfitted.

Paint was rarely used. Instead, a coat of pine oil, which turned dark brown after a period of time and wear, was applied. When the vessel was sold and the profits counted, the shipwright would begin another vessel.

American shipwrights took considerable pride in their work, and American built ships started to achieve a superior reputation among European nations. They were as good as English vessels, less expensive, and more quickly built.

The American shipbuilding industry prospered so well that by 1676 there were more than 300 colonial ships of from 50 to 250 tons sailing from Boston. Colonial ships numbered 1,000 by 1700. It was estimated just before the Revolution that "Massachusetts owned one vessel for every 100 of its inhabitants."

At the time of the Revolution, approximately one-third of England's ships had been built in American shipyards. Britain had come to rely on her colonial shipwrights.

Without its early shipbuilding industry, the American nation would not have developed as rapidly as it did before the eve of the Revolution. Just as it benefited the economy, American shipbuilding also made an important contribution to the winning of the Revolution and it can be justifiably said that early colonial shipyards launched both ships and a nation. ⚓

SM2 Robert Ashton and RM3 Darren Vogelman, members of the ship's military detachment, check out signal flags.

USNS Mississinewa Joins MSC Oiler Force

By Louis Panarale

The word "replenishment" will take on an added meaning in early 1978 when the USNS Mississinewa becomes fully operational as a fleet support oiler. The oiler is assigned to Military Sealift Command, Atlantic.

Neosho class ships like the Mississinewa, built between 1953 and 1955, are the largest single-commodity oilers the Navy has. MSC is scheduled to receive five more of this class.

Newer Navy oilers, such as those in the Wichita class, have slightly smaller oil capacity but carry another commodity, frequently munitions.

Mississinewa not only will retain a capacity of about 180,000 barrels but can deliver chilled and frozen stores during underway replenishment of Navy fleet ships.

The advantages of a dual capability, dubbed mini-multi supply, include considerable saving in fuel and replenishment time for Navy fleet ships. Normally a fleet ship makes separate rendezvous with oilers and stores ships.

The mini-multi system previously has been used by MSC with good results. The first MSC, Atlantic oiler to have a dual supply capability was USNS Marias.

Impressed with the performance of Marias, Navy converted two military manned oilers, USS Neosho and USS Truckee, for mini-multi service. Neosho and Truckee are the same class as Mississinewa.

Master of the Mississinewa will be Capt. Walter Barkmann, an ex-Navy officer who commanded ships in the Pacific during World War II. He joined MSC in 1967 and has since been master of the USNS Point Barrow, Lynch, Shoup, Bowditch, Wilkes, Mizar, Sands and Marias. Barkmann was the first master of the Marias when MSC was assigned the vessel in 1973.

Mississinewa will be assigned to MSC, Atlantic but was first delivered to MSC, Pacific for conversion to civilian manning. MSC, Pacific has a maintenance and engineering shop at Oakland.

Specialists overhauled deck machinery and underway replenishment stations, installed life saving equipment and replaced steam lines.

Before delivering the ship to Oakland, the Navy had removed the guns. The Combat Information Center also was removed leaving deck space for two refrigerated containers.

The containers were installed in early November after the ship was sailed to Hoboken, N.J. for completion of a general overhaul.

While Mississinewa was in Oakland, the MSC, Pacific maintenance shop employed 59 skilled workers, 44 temporary employees and a crew of 38 Civil Service mariners to ready the ship for civilian manning and return to fleet operations.

The original living quarters for

Navy personnel were converted to staterooms. Galley and messing areas were modified and a central air conditioning system was installed. Boilers were overhauled, generators were repaired and ventilation was improved in the boiler and engine rooms.

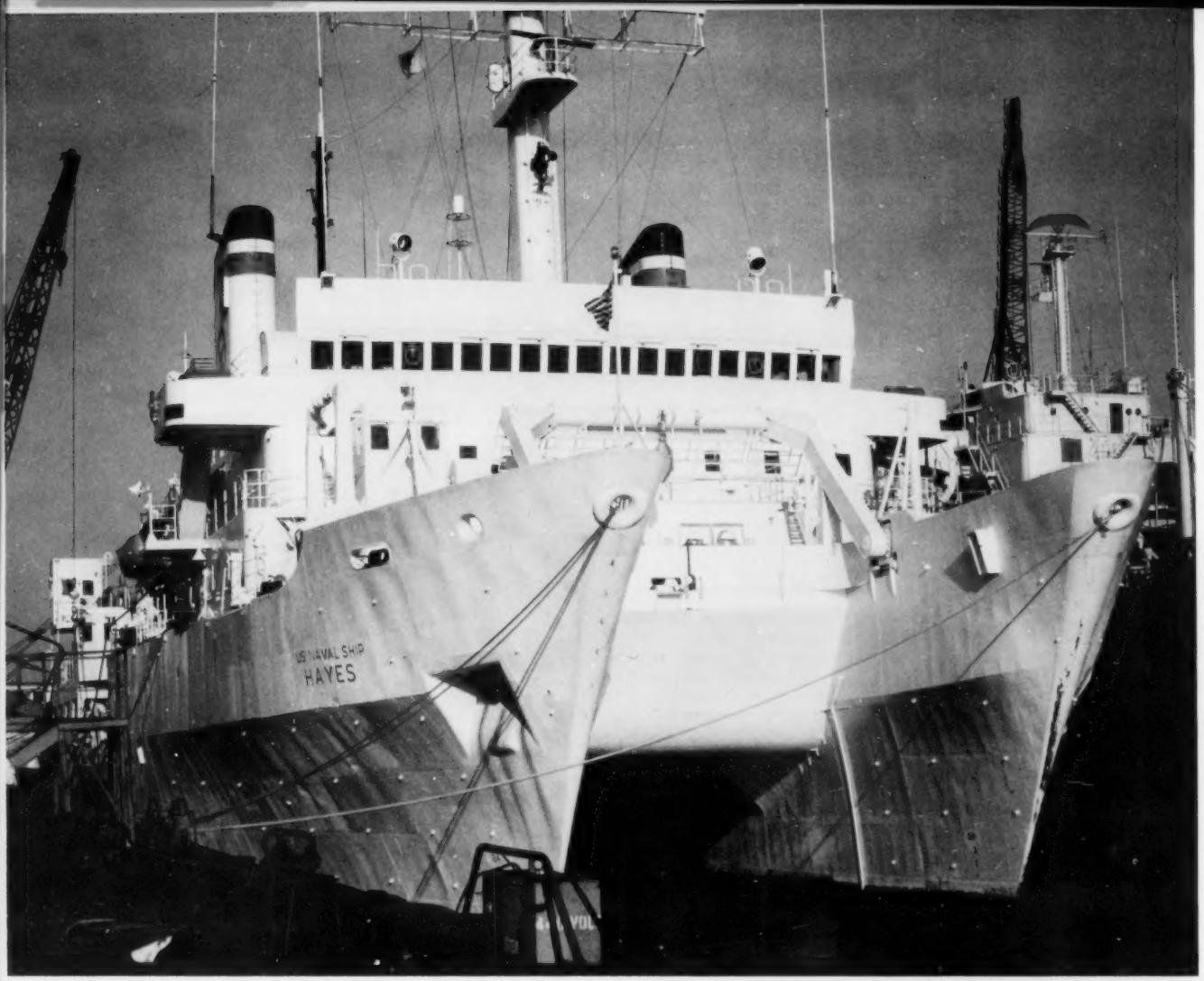
Mississinewa will be at Hoboken until the end of the year when it sails for Norfolk to take on fuel and stores.

By the second week of January, the Mississinewa is expected to have a full crew who will receive in-port training and get acquainted with their ship.

In mid-January Mississinewa will leave Norfolk for the Virginia Capes-Jacksonville, Fla. area for at-sea crew training and in February the ship will be sailed to Guantanamo, Cuba for advanced operational training. The ship will return to the United States in March for assignment with the Atlantic Fleet and will begin fleet support operations.

First Officer Donald Higgenbottom inspects firefighting equipment on deck.

Russ Lawrence installs new lighting units on the helicopter deck.



Scientific gear and supplies are loaded aboard Hayes.

Seafaring Women Scientists Enjoy Role Aboard Hayes

By Marian E. May and Carmela A. Bailey

Two women on board a ship, with 60 men, for a month? Some of our friends chuckled when they heard that. Others laughed outright. A few, however, worried how our families would get along while the two of us were on an extended voyage at sea.

Actually, one would expect a marine biologist to spend time at sea. Since we are biologists who work for the Naval Research Laboratory in Washington, D.C., where we are assigned to the biochemistry branch of the ocean science division, we are hardly strangers to seagoing life.

Most of our time on the job is spent studying strains of bacteria and fungus that feed on fuel—with the aim of developing economical and environmentally safe methods of preventing the growth of these micro organisms in ship fuel tanks. Unless their development is inhibited, they clog fuel lines and filters with fungal growth and

Marian May checks a biological water sampler.

Carmela Bailey (left) and Marian May guide cable onto a drum aboard the Hayes.

bacterial slime. The result is a loss of efficiency and economy in ship operations.

On-the-spot analysis of different types of organisms allows the development of new methods to control their growth. Thus, we collect micro organism samples from the ocean and ocean floor while on a cruise, identify and isolate new types or strains and thus help the Naval Research Laboratory perform a part of its varied mission.

Going to sea is part of our job and we look forward to it. We have some heavy work to do but don't ask for special favors just because we are women. Granted, it takes both of us to lift a wooden crate of instruments, but it usually takes two men to lift the same crate.

We set up our laboratory aboard ship by first adapting our needs to space. Then we uncrate the instruments, build shelves and lash down the equipment. That task has made us pretty proficient with saw, hammer and nails.

We have fond memories of our last scientific cruise in 1976 aboard the USNS Hayes, a remarkable floating laboratory. Hayes, with an overall length of 246 feet, is unique with its twin hulls and its computerized ship control system.

The dual hulls provide considerable open deck area and gives us the large laboratory area we need. We were not cramped as is often the case on single hull vessels.

Newcomers aboard the Hayes are often startled by the loud thump between the twin hulls when the ship is in turbulent waters. The ship also maneuvers in a way that has become known as the "Hayes Shuffle," a movement that can bring on sea sickness in a hurry.

Our most recent research aboard the Hayes was successful. But success hinges on cooperation between scientists and crew, on each group understanding the others needs and problems.

Starting with Captain Nicholas Triantafyllou, down through the ranks of crewmen, the cooperation was excellent for our cruise. An example of that cooperation was evident when we would near an area where we were to take samples from the ocean.

The watch officer would announce to all hands that there would be no trash or garbage thrown overboard until further notice. Even the washing and toilet facilities were off limits so that our samples would not be contaminated.

Our laboratory was usually open to the ship officers and crew. They seemed to enjoy our being aboard

Luminous Mosquito Bay in Puerto Rico is threatened by pollution which may kill the organisms that have a phosphorescent-like glow.

Indians along the Orinoco River in Venezuela ask for food and tobacco from the Hayes' crew.

and would often stop by to chat. Then there was always someone in the galley crew who would take time to pack a lunch for us for our excursions ashore.

Perhaps we broke the monotony of the usual life at sea and maybe even raised morale a bit. We know that everyone enjoyed the formal dresses we wore to the captain's dinner. Even the male scientists, not known for their elegant attire, followed our lead and put on ties for dinner. We were also informed that language at the tables improved considerably.

An interesting part of our cruise was our investigation of luminous organisms in three Caribbean bays. These organisms cause the bays to give off a phosphorescent-like glow at night. Unfortunately, pollution threatens the organisms.

With two other scientists, we studied the heavily polluted Oyster Bay in Jamaica, the threatened Phosphorescent Bay in Puerto Rico, and Mosquito Bay on Vieques Island in Puerto Rico. The Naval Photographic Center sent along a film crew who took footage of our samplings for a movie on bioluminescence.

We hope that our pollution studies of the bays will lead to a better understanding of the en-

vironmental factors that make the organisms give off that remarkable light.

The Navy is interested in the phenomenon and our studies may contribute to preserving the nocturnal beauty of these bays.

Although we collected most of our samples from the open seas, we made several trips on the Hayes into bays and up rivers in Jamaica, Puerto Rico and Venezuela. The most exotic ports of call were in Venezuela.

Included in the visit to Venezuela was a cruise of about 100 miles up the Orinoco River to Puerto Ordaz. While we were taking sediment samples from the river bottom, Indians in canoes made out of hollowed-out logs, some with sails and some with fancy outboard motors, came alongside Hayes and asked for food and tobacco.

The two of us were surprised but the officers and crews of the Hayes were prepared. They threw food, candy and clothing over the sides. What missed the outstretched hands of the Indians fell into the river and became the property of the deadly pirana fish.

It was interesting to note changes in housing as we cruised up the river, from primitive huts near the delta to ultra modern villas in Puerto Ordaz. Puerto Ordaz is a prosperous port city built for the export of ore from Venezuela's booming mining industries.

While the Hayes was taking on fuel and supplies at Puerto Ordaz, we visited historical spots such as Los Castillos de Guayana, ancient forts built for the export of ore from Venezuela's booming mining industries.

When the two of us returned home to Washington, D.C., we found that our husbands and children had survived admirably without us. No one had starved, our homes were neat and tidy and Marian's children managed to get to their music lessons.

For the female marine biologist, it is helpful to have understanding husbands. Without their support our work would have been more difficult and the whole trip would have been less enjoyable. But, again, that's not unique for we are certain our male counterparts feel the same way about their families. ⚓

Marian May is a 1958 graduate in biology of Mount Allison University in New Brunswick, Canada. She received her masters degree in bacteriology from the University of Wisconsin in 1961.

She has done cancer research and taught bacteriology and molecular biology at the University of Wisconsin. She joined the Naval Research Laboratory in 1971. She is married and has two children.

Carmela Bailey graduated from Virginia Polytechnic Institute, Blacksburg, Va. in 1972 with a bachelors degree in biology. She worked for two years in cancer research for Litton Bionetics, Bethesda, Md.

She joined the Naval Research Laboratory as a microbiologist in 1974. She also is married.

Grain is loaded into a bulk carrier from a high-speed export grain elevator at Galveston.

Port of Galveston: Old in Tradition, Young in Ideas

The island on which the port of Galveston is located was discovered in 1686 by the French explorer Robert LaSalle. In 1777 troops of Don Bernardo de Galvez, governor of Louisiana, occupied the island. The name Galveston is derived from the governor's name.

From 1817 to 1821 the notorious pirate Jean Lafitte made Galveston his headquarters.

Settlement of the island began in 1836 when the Republic of Texas granted land to Michael B. Menard who organized the Galveston City Co. and made plans for a town.

By the time Texas joined the Union in 1845, Galveston was the principal port of the state. In 1854, Galveston strengthened its port management and facilities when leading local businessmen formed a single corporation to manage port operation.

In the following years Galveston continued to grow, and during the Civil War it was one of the most important supply ports for the Confederacy. The port was captured by a Union fleet in October 1862 but retaken by the Confederates on New Year's Day 1863.

Eventually Galveston lost its position as a leading commercial port on the Gulf Coast, mainly for two reasons. Other ports, such as Houston, began to grow and compete with Galveston and a devastating hurricane took 5,000 lives and destroyed much of the city when it hit on Sept. 8, 1900.

After the hurricane Galveston residents built a 17-foot high seawall that ran for 10 miles. The wall proved its worth by keeping flood damage to a minimum during another hurricane in September 1961.

The port became municipally owned in 1940 when citizens voted to buy the properties from private interests.

Today, Galveston is one of the few ports in the world offering complete terminal services, from railroad car and truck to steamer berths, under single management by Galveston Wharves.

The port is geared to serve the shipper who wants to save time and money. Facilities are so well laid out that cargo arriving by truck or by rail often is delivered to the dock and loaded aboard ship the same day.

Galveston Wharves owns and operates a 50-mile terminal railway equipped with six diesel switch engines, three locomotive cranes, a 35-ton mobile crane, a 50-ton gantry crane and a 60-ton container crane. Wharves' personnel do the switch-

ing, car loading and unloading of all traffic that enters the port from the six railroads and numerous trucking companies.

Railroads serving the port of Galveston are the Sante Fe, Rock Island, Burlington Northern, Southern Pacific, Missouri Pacific and Missouri-Kansas-Texas lines. These six rail systems serve all points west of the Mississippi River and west of the Indiana-Illinois state line to the Pacific Coast.

The port is an area that has continued to expand industrially. More than 80 steamship lines have offices or agents in Galveston that can offer service to the major ports of the world. In 1976 nearly 1,000 vessels called at Galveston.

In 1964, Galveston became the first port in the United States to offer reductions in handling charges for cargo already secured on pallets. The cost reduction plan was one of the reasons the U.S. Department of Commerce awarded an "E" flag for excellance to Galveston Wharves.

In 1967 Galveston began to attract new business by offering complete facilities for assembling and shipping equipment to firms overseas. Galveston's single manager system of operations was the key. By July this package offer, known as Project Port, attracted 549 ships to Galveston.

The port is on the eastern end of Galveston Island which is two miles off the Texas coast in the Gulf of Mexico. The island is 30 miles long and varies from one to two miles wide.

The island is connected to the Texas mainland by two vehicular causeways and a railroad bridge. The wharf and waterfront facilities have a capacity to dock 38 ships at a time, including LASH, Seabee and container vessels.

Developed frontage of the Galveston port totals 22,639 linear feet and 28 shipside warehouses have a total storage area of more than three million square feet. There is another one million square feet of open paved areas and 704,000 feet of unpaved space.

There are two export grain elevators at the port. A port-owned elevator can store 7.8 million bushels, and a newer elevator owned by Farmers Export Co. has a four million bushel capacity. In October 1976, a port record was established when 80,000 long tons of corn were unloaded from the Farmers Export elevator and put aboard ship.

An economic business survey in 1968 indicated that almost one of every three dollars in earned wages in the area was directly attributable to port activities. Port income for that year amounted to $50 million.

The port's east end container terminal has been in operation since 1972. The 1,000-foot-long facility is equipped with a container crane that can handle 40 to 60 long tons and its 25-acre container dock provides rail and truck services.

The covered loading terminal for barges can work LASH and Seabee barges in all kinds of weather. Equipment includes two 35-ton bridge cranes. The terminal has shipside warehouses and is directly across from a barge marshalling yard on Pelican Island.

The Galveston waterfront also has been the site for an expanding shipbuilding industry. Todd Shipyards Corp. has more than 1,200 employees, and Galveston Shipbuilding Co. is producing some of the world's largest barges.

The port is progressing on a 15-year master development plan begun in 1970 to improve standard container and barge facilities and cargo handling. Additional land on Pelican Island has been acquired for expansion. Port authorities also are planning an 860-acre foreign trade center and a 96-acre bulk coal terminal on the island.

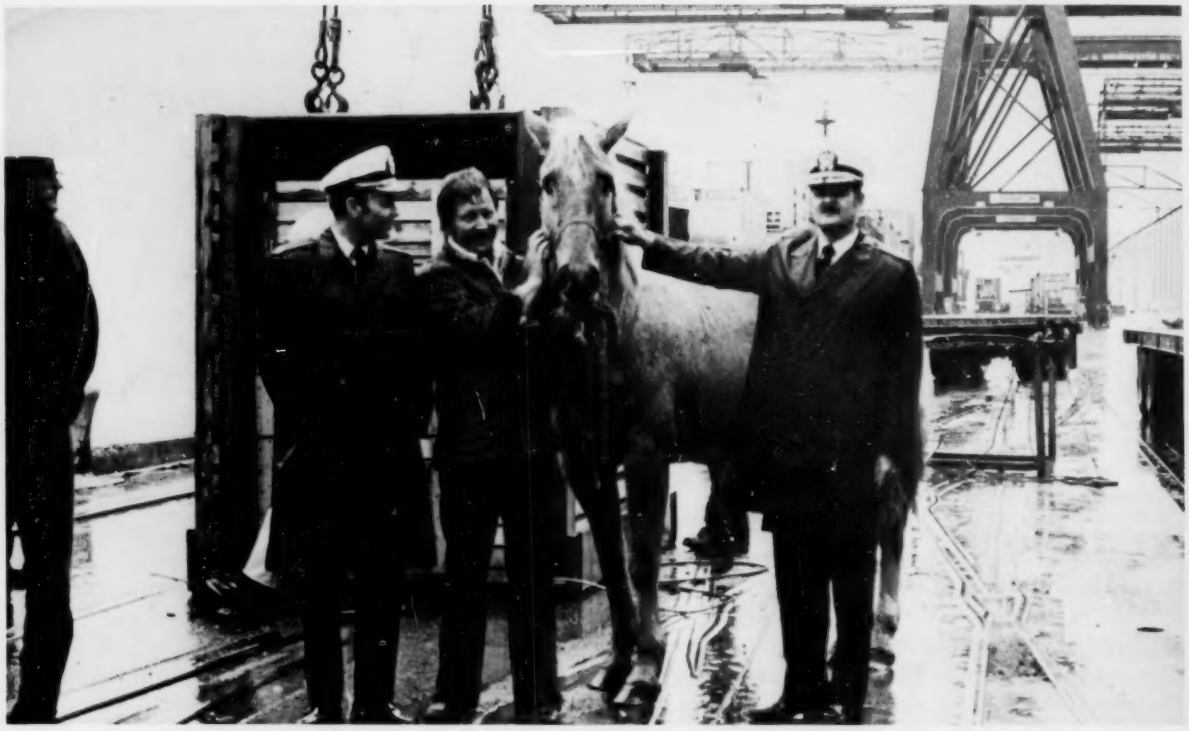
C.S. Devoy, executive director of the port of Galveston, said each step of the port's growth is accompanied by public meetings at which a new operation is explained.

"The proposed deepening of the Galveston channel and the entrance channel have been the subject of numerous meetings over the past several years," Devoy said. "Two meetings have been held on the coal terminal and more will be held as plans are developed."

Devoy said that future port expansion plans are directed mainly toward the liquid and dry bulk fields. "Numerous studies have been commissioned to guide our growth plans for such cargo. The break-bulk, project and container cargo remain the daily bread and butter of the port of Galveston."

Far Eastern cotton spinners inspect a compress. Galveston is the world's largest cotton exporting port.

Photo by S/Sgt. David Rennie



Sixteen saddle horses on the remote island of Adak in the Aleutian Islands were moved to Anchorage by MSC chartered tug Sea Giant and Barge 560. Ken Hahn (center), executive director of the Turning Point Boys' Ranch, of Willow, Alaska, accepts Tequila from Cmdr. John Stuckemeyer, head of the MSC Alaska office. At left is Lt. Cmdr. L. E. Cole, special services officer at Adak. Tequila and most of the other horses were turned over to the ranch. See story page 9.

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